

### Remarks

Claims 1, 2, 6, 10, 13, 16 and 20 have been amended as shown in detail in Attachment I (Version with Markings to Show Changes Made). The allowed subject matter of Claims 5 and 19 has been incorporated into parent Claim 1 and 6, respectively, and claims 5 and 19 have been cancelled.

### The 35 USC 112 Rejection

Claims 1, 10 and 13 have been rejected under 35 USC 112, second paragraph, as being indefinite. The amendments to these claims have overcome the objections thereto. Note that the meaning of "N" is set forth on page 8, line 11 of Applicants' specification as "any number", and such has been added to Claims 1, 10 and 13, as requested by the Examiner. Thus, this rejection should be withdrawn.

### The 35 USC 102 Rejections

Claims 1-3, 5, and 15 are rejected under 35 USC 102(e) as anticipated by Suemura et al. It is noted that Claim 5 has been allowed. The subject matter of allowed Claim 5 has been incorporated into parent Claim 1, and thus Claim 1 along with Claims 2, 3 and 15 should be allowed. Claim 5 has been cancelled. Thus, this rejection has been overcome and should be withdrawn.

Claims 16 and 17 are rejected under 35 USC 102(b) as anticipated by McMahon. The subject matter of allowed Claim 19 has been incorporated into Claim

16, and thus Claims 16 and 17 are deemed to be allowed. Claim 19 has been cancelled.

Thus, this ground of rejection should be withdrawn.

Allowable Subject Matter

Claims 4-9, 11-12, 14, and 18-20 have been indicated as being allowable, and Claims 10 and 13 have been indicated as being allowable upon overcoming the 35 USC 112 rejection. In view of the amendments to Claims 1, 10, 13 and 16, Claims 1-4 and 6-18 and 20 are believed to be allowable.

Conclusion

In view of the amendments to the claims and cancellation of Claims 5 and 19, each rejection is believed to have been overcome, and thus this application is in condition for allowance based on Claim 1-4, 6-18, and 20. Entry of these amendments is requested since they condition the application for allowance and raise no new issues or require further consideration.

Respectfully submitted,

Dated: 3-11-02



L.E. Carnahan  
Agent for Applicant  
Registration No. 20,555  
Tel. No. (925) 422-5024

Enclosure:  
Attachment I

Attachment I  
S.N. 09/609,178  
Version with Markings to Show Changes Made

In The Claims:

Claims 1, 2, 6, 1, 13, 16 and 20 have been amended to read as follows:

1. (Amended) In a wavelength router for fiber optical networking and computer interconnects, the improvement comprising:

at least one diffraction grating which utilizes only N wavelengths to interconnect N inputs to N outputs in a fully non-blocking manner[.], wherein N is any number, and

a second diffraction grating positioned to receive outputs from said first mentioned diffraction grating.

2. (Twice Amended) The improvement of Claim 1, wherein said first mentioned diffraction grating is augmented by elements selected from the group consisting of coupler and wavelength selective elements to provide fully non-blocking interconnection.

6. (Amended) The improvement of Claim 1[5], wherein said diffraction gratings are identical.

10. (Amended) The improvement of Claim 7, wherein said plurality of filter modules comprises N-1 different filters for said N inputs and said N wavelengths, wherein N is any number.

13. (Amended) The improvement of Claim 11, wherein said retro-reflector assembly is constructed to vertically displace and retro-reflect  $N[n]-1$  beams, wherein N is any number.

16. (Amended) A wavelength-conserving grating router for intermediate wavelength density, including:

at least one diffraction grating for receiving a number of inputs and for discharging a greater number of outputs, and

means including a second diffraction grating for combining at least a portion of said outputs.

20. (Amended) The grating router of Claim 16, [19] additionally including assemblies operatively connected to said diffraction gratings selected from the group consisting of collection and re-direction optic and retro-reflector assemblies, and collection optics and filter module assemblies.

Claims 5 and 19 have been cancelled.